



Knowledge Regarding Anaemia Among Adolescent Girls of Keonjhar City, Odisha

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ABSTRACT : Iron deficiency anaemia, one of the most widespread nutritional deficiency diseases affecting all-most all age group of both the genders is a serious public health concern in most developing countries. But adolescent girls are the most vulnerable group and are a critical health problem in India. Growth spurts and menarche increases iron requirements with poor diet and no added iron supplementation puts them into the high risk category for iron deficiencies. Lack of adequate knowledge regarding good nutrition is one of the most significant reasons behind it, which leads to a vicious cycle of anaemia in the later life of the adolescent girl as well as for her future child. Thus, worldwide attention over iron deficiency anaemia in pregnancy has shifted recently from providing nutritional supplements during pregnancy to attempting to ensure that women especially adolescent girls have adequate iron stores prior to conception. The present study has been conducted among 80 college going adolescent girls from Keonjhar district with the objective to assess the nutritional status and anaemia related knowledge of the adolescent girls.

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Anaemia, Adolescent girl, Knowledge, Nutritional education

As defined by World Health Organization, Adolescent is a person between 10 and 19 years of age (World Health organization, 2012). The world is home to 1.2 billion individuals aged 10–19 years (United Nations, 2008). Adolescents aged 10-19 years constitute about 21 per cent of India's population which in absolute numbers translates to 253 million. Adolescence period is characterized by rapid increase in height, weight and hormonal changes resulting in sexual maturation (www.unicef.org). Adolescence is a time of intense physical, psychological and cognitive development (Kaur *et al.*, 2011). It is the

second growth spurt of life, and both boys and girls undergo different experiences in this phase. Increased physical activity combined with poor eating habits and the onset of menstruation contributes to accentuating the potential risk for adolescent's poor nutrition (Balasubramanian, 2005). Thus, growth spurts, menarche, poor diet and no added iron supplementation puts them into the high risk category of iron deficiency anaemia. And after marriage they are put to a more critical condition during pregnancy with added the requirements of iron.

Anaemia is a global public health problem affecting both developed and

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developing countries. Anaemia is a condition in which the number of red blood cells (and consequently their oxygen-carrying capacity) is insufficient to meet the body's physiologic needs. The most common nutritional deficiency anaemia affecting more than 2 billion people particularly women of the reproductive age and young children globally are iron deficiency anaemia (Imunticha *et al.*, 2015). But other nutritional deficiencies, including folate, vitamin B12 and vitamin A, acute and chronic inflammation, parasitic infections, and inherited or acquired disorders that affect haemoglobin synthesis, red blood cell production or red blood cell survival, can all cause anaemia (World Health Organization, 2011).

According to National Family Health Survey (NFHS)-III data, over 55 per cent of both adolescent boys and girls are anaemic. Adolescent girls in particular are more vulnerable to anaemia due to rapid growth of the body and loss of blood during menstruation. According to NFHS-III, almost 56 per cent of adolescent girls aged 15–19 years suffer from some form of anaemia. More than 39 per cent of them are mildly anaemic, while 15 per cent and 2 per cent suffer from moderate and severe anaemia, respectively (Angadi and Ranjitha, 2016). The main reason of iron deficiency anaemia among the reproductive age women is excessive loss of iron or demand of iron associated with menstruation and child birth. It is a critical health concern as it effect growth and leads to various health problems. It is one of the major causes of morbidity, mortality in reproductive age and a key factor to low birth weight. The clutch of poverty, inadequate diet, pregnancy, lactation, poor educational level and poor access to health services in remote areas drags the adolescent girls and women into anaemia (Mamta and Devi, 2014). A 2007 Indian government-12 by 12 initiative, which aimed at ensuring to have haemoglobin of 12 g/dL in Indian adolescents by 2012, listed that low dietary intake, poor availability of iron, chronic blood loss due to hookworm infestation, and malaria as the main causes of anaemia in India (Ministry of Health and Family Welfare, 2007).

In our country discrimination in food distribution and access to food within the family puts the adolescent girls at a high risk of under-nutrition. According to the national iron plus initiative (NIPI), Government of India's flagship programme for anaemia, India is among the countries with the highest prevalence of anaemia across all age groups (Fig. A). Though there are various

programs started by government of India, the prevalence of anaemia remains higher especially among the rural population. The ignorance of rural women about anaemia and lack of knowledge on preventive practices may still contribute to poor health conditions. Improved iron status with reduced risk of anaemia in pregnancy, low birth weight, maternal morbidity and mortality and with enhanced work productivity and perhaps linear growth. Therefore, the WHO nutritional targets for 2025 include reduction of anaemia by 50 per cent by 2025.

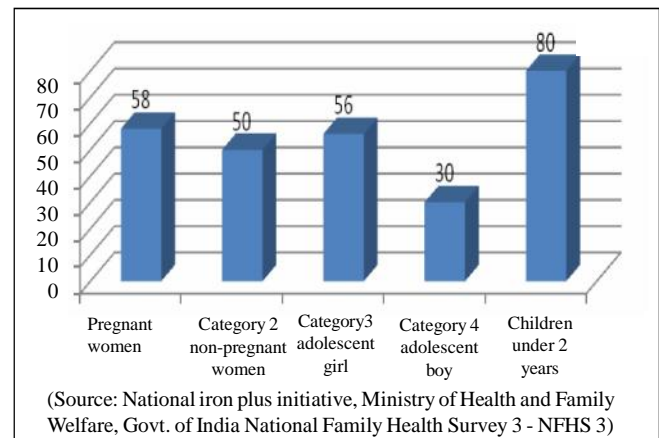


Fig. A : Prevalence of anaemia among all age group in India

RESEARCH METHODOLOGY

Objectives:

- The present study has been conducted.
- To assess the nutritional status of the adolescent girls.
- To assess the anaemia related knowledge of the adolescent girls.

Research design :

Eighty college going girls aged 15-19 from Govt. Women's College, Keonjhar were selected randomly to assess their nutritional status and anaemia related knowledge and awareness. Age of the subject was considered to the nearest whole number.

Data collection :

A structured questionnaire developed in keeping view the objectives of the study to assess their demographic profile and anaemia related knowledge and awareness was assessed by using a pre-tested questionnaire. The data has been analysed by suitable

statistical methods.

The anthropometric measurements :

Height of the respondents was measured while the subject is standing without foot wear, to the nearest 0.1 cm, using a portable Anthropometry rod. Weight was measured with the subject standing and wearing light clothes to the nearest 0.5 kg using a portable electronic weight machine. Body mass index (BMI) is a widely used parameter and it is moderately associated with height among adolescents. The formula weight (kg)/ height (m²)

was used to calculate body mass index (BMI) and international cut-off for BMI was used for classification of subjects as malnourished/ malnutrition (BMI below 18.0 kg/m²), normal 18<BMI>25kg/m²), over weight (25 <BMI<30 kg/m²) and obesity (BMI>30kg/m²) (Priyadarshini, 2015).

RESULTS AND DISCUSSION

Table 1 depicts the demographic profile of the respondents who fall under different category of age

Table 1 : Demographic profile		(n = 80)
Variables	F (n = 80)	%
Age		
15 – 17	57	71.25
18 – 19	23	28.75
Family income per month in rupees		
< 8,000	18	22.5
8,000 – 10,000	35	43.75
10,000 – 15,000	20	25
>15,000	07	8.75
Marital status		
Unmarried	73	91.25
Married	07	8.75
If married, number of children		
No children	71	97.26
1-3	02	2.74
More than 3	0	0
Spacing between children in years		
Not applicable	80	100
Less than 2 years	0	0
2 and more than 2 years	0	0
Number of members in the family		
1 to 5 members	71	88.75
More than 5 members	09	11.25
Type of family		
Nuclear	51	63.75
Joint and extant	29	36.25
Father's education		
Upto primary	05	6.25
Metric	57	71.25
Higher secondary and above	18	22.5
Mothers education		
Illiterate and upto primary	62	77.5
Secondary and higher secondary completed	12	15
Above Higher Secondary	06	7.5
Type of diet		
Vegetarian	06	7.5
Non-vegetarian	74	92.5

Table 2 : Anthropometric measurements of the subjects (n=80)		
Variable		
Body composition	Mean	SD
current height (in cm)	156.3	±5.97
current weight (in kg)	46.5	±7.26
BMI (weight (kg)/ height (m ²)	19.2	±2.049
Nutritional status	Frequency	%
Underweight	23	28.75
Normal	54	67.5
Over weight	03	3.75

Table 3 : Knowledge toward anaemia among adolescent girls (n = 80)		
Variables	F	%
Heard about anaemia	74	92.5
Source of information		
School / College teacher	55	74.32
Doctor/health personal	05	6.76
Family members	05	6.76
Media	07	9.46
Friends/neighbours	02	2.7
Is anaemia a health problem		
Yes	59	73.75
No	21	26.25
In anaemia there is?		
Increased red blood cells	19	23.75
Decreased haemoglobin	28	35
Increased haemoglobin	06	7.5
Don't know	27	33.75
Nutrient deficient in anaemia		
Iodine	04	5
Iron	37	46
Calcium	23	28.75
Don't know	16	20
Causes of anaemia		
Worm infestation	06	7.5
Poor diet	39	48.75
Excessive bleeding	22	27.5
All three are correct	10	12.5
Don't know	03	3.75
Signs and symptoms of anaemia		
Tiredness/body weakness	28	35
Irregular menstrual cycle	13	16.25
Impact learning process	08	8.75
Short of breath	03	3.75
All are correct	20	25
Don't know	08	10

Table 3 : Contd.....



Table 3 : Contd.....

Effects of anaemia		
Impact on growth and development	29	36.25
Impact on learning (school performance)	11	13.75
Decreased work capacity	17	21.25
All are correct	14	17.5
Don't know	09	11.25
Preventive measures of anaemia		
Consuming iron-rich food	38	47.5
Personal hygiene	15	18.75
Taking IFA tablets	07	8.75
All are correct	12	15
Don't know	11	13.75
Which is a Iron-rich food		
Green leafy vegetables	43	53.75
Sprouted pulses	08	10
Meat, poultry	07	8.75
All are correct	12	15
Don't know	10	12.5
Vitamin C enhances iron absorption		
Yes	10	12.5
No	16	20
Don't know	54	67.5

groups, marital status, number of children and spacing between children, type of family with number of members in family, family monthly income, parent's educational qualification.

The Table 2 shows that the average height of the subjects was 156.3 ± 5.97 . Average weight was 46.5 ± 7.26 and average BMI $19.2 \text{ kg/m}^2 \pm 2.049$. The nutritional status of the subject has been assessed by the help of WHO cut offs on percentile basis. It was found that 67.5 per cent of the subjects were of normal health, 28.75 per cent were underweight and 3.75 per cent subjects were overweight.

In the study (Table 3) out of 80 adolescent girls, 74 (92.5%) had come across the term of anaemia before. The main source of information was school/college teachers (74.32%), followed by the various source of mass media (9.46%). Fifty-nine (73.75%) respondents considered anaemia as a health problem. Among the adolescent girls 27 (33.75%) did not know what happens in anaemia and only 28 (35%) girls answered correctly that there is decreased in haemoglobin level in anaemia.

Only 37 (46%) girls out of 80 told anaemia is due to deficiency of iron and 16 (20%) participants did not know the correct answer. Thirty-nine (48.75%) of the respondents informed that poor diet was the only cause for anaemia and 10 (12.5%) answered anaemia was due to multiple causes such as worm infestation, poor diet, and excessive flow during menstruation. Out of 80 respondents, 28 (35%) picked out tiredness/body weakness as the only feature of anaemia and 20 (25%) answered anaemia manifests with multiple signs and symptoms. Twenty-nine (36.25%) told anaemia impacts on only physical growth and development and 14 (17.5%) answered anaemia impacts on physical growth, learning process and decreases work capacity. When asked about the preventive measures against anaemia, out of 80 adolescent girls, 38 (47.5%) told consumption of iron-rich food as the only protective measure and 12 (15%) answered multiple correct measures. Forty-three (53.75%) respondents told green leafy vegetables were the only source of iron-rich food and 12 (15%) girls answered sprouted pulses, green leafy vegetables, meat,

and poultry all are rich sources of iron. Only 10 (12.5%) told vitamin C enhances iron absorption.

Conclusion :

Iron requirements increases due to growth spurts and menarche but with poor diet and almost no added iron supplementation puts the adolescent girls into the high risk category for iron deficiencies. Thus, increasing awareness and knowledge among adolescent girls will improve anaemia in long run and potential of applying this experience (study) through schools, colleges and other organisations reaching adolescent girls provides an exciting and feasible opportunity. Hence, nutrition education and supplementation should be a part of education System to make them aware about the importance of good balanced diet. Detection of anaemia by conducting regular blood test in school and college along with counselling the adolescent girls about the importance of Iron in diet can be served as important tools in combating anaemia.

REFERENCES

- Angadi, N. and Ranjitha, A. (2016).** Knowledge, attitude, and practice about anemia among adolescent girls in urban slums of Davangere city, Karnataka. *Internat. J. Med. Sci. Public Health* 2016;5. DOI:10.5455/ijmsph.2016.2007201570.
- Balasubramanian, P. (2005).** Health needs of poor unmarried adolescent girls. A community based study in rural Tamil Nadu. *Indian J. Popul. Edu.*, **28 &29**: 18-33.
- Imunticha, Francis Tashara, Reeshma, Kunjamma Achen, Rency, Quadras, Marina, Valencia D'Souza, Prima, Jenevive Jyothi, D'Souza and Anu, Sankar (2015).** Knowledge and self-reported practices on prevention of iron deficiency anaemia among women of reproductive age in rural area. *Internat. J. Adv. Scient. Res.*, **1(7)**: 289-292.
- Institute of Health Management Pachod (1999). The transition from adolescence to womanhood-policy implications. Pune: IHMP; 1-16pp.
- Kaur, M., Bassi, R. and Sharma, S. (2011).** Impact of nutrition education in reducing iron deficiency anemia in adolescent girls. *Indian J. Fundamen. & Appl. Life Sci.*, **1** (4): 222 - 228.
- Mamta, L. and Devi, Tamphasana (2014).** Prevalence of anemia and knowledge regarding anemia among reproductive age women. *IOSR J. Nursing & Health Sci.*, **3** (2) : 54-60.
- Ministry of Health and Family Welfare (2007). Government of India, Addressing Iron Deficiency Anaemia among Indian Adolescents—12 by 12 Initiatives, Ministry of Health and Family Welfare, NEW DELHI, INDIA.
- Pareek, Priyanka and Asfia, Hafiz (2015).** A study on anemia related knowledge among adolescent girls. *Internat. J. Nutr. & Food Sci.*, **4** (3): 273-276.
- Priyadarshini, Vijayeta (2011).** Nutritional status of adolescent girls from urban slum area of Bhubaneswar. *J. Extn. Edu., OUAT, BBSR*, **16** (1&2) : 129 - 132.
- Priyadarshini, Vijayeta (2015).** Concern and dissatisfaction about body image and body weight among the urban adolescent girls. *Asian J. Home Sci.*, **10** (1): 155-160.
- World Health Organization (2011). Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity WHO/NMH/NHD/MNM/11.1.pdf.

WEBLIOGRAPHY:

- United Nations (2008). Department of economic and social affairs, population division, world population prospects: The 2008 revision. Available at: <http://www.esa.un.org/unpd/wpp2008/index.htm>.
- World Health Organization (2012). Adolescent health and development. Available at: http://www.searo.who.int/en/Section13/Section1245_4980.htm.
- www.unicef.org/newsline/99pr6.htm, 16/04/99.

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